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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/858,377	05/16/2001	Evan H. Cheolas	WUR 50651/USw	3321
7590 10/03/2003				
Patent Counsel Huntsman Polyurethanes 286 Mantua Grove Road West Deptford, NJ 08066-1732				
EXAMINER EASHOO, MARK				
ART UNIT 1732		PAPER NUMBER 8		
DATE MAILED: 10/03/2003				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Applicati n N .	Applicant(s)	
	09/858,377	CHEOLAS ET AL.	
	Examiner	Art Unit	
	Mark Eashoo, Ph.D.	1732	

-- The MAILING DATE of this communicati n appears on the cover sheet with the c rrespondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5,13-15,20,22,24 and 26-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-5,20,22,24,35 and 37 is/are allowed.
- 6) ☒ Claim(s) 13,15,26-34,36 and 38 is/are rejected.
- 7) ☒ Claim(s) 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>1</u> . | 6) <input type="checkbox"/> Other: _____ |

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Claim Objections

Claim 14 is objected to because it depends from a canceled claim. Accordingly, the claim has not been further considered on the merits.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 13, 15, 30, 32, 34, 36, and 38 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 13, 30, 32, and 34: Claims 13 and 30 recite that the polyol and polyisocyanate are mixed at an index of 200 to 1000 which renders the claim indefinite because the meaning of the term or range is not clearly defined. It is noted that the instant specification does not teach or define the meaning of this "index" in any manner, though mentions many different 'indexes'. It is also noted that the prior art of record does not teach or suggest that such term is commonly used in the art. Furthermore, the term "index" in general throughout the art is known to have many various uses such as a heterogeneity index (ie. polydispersity of a mixture of molecular weights) or a refractive index of a solution to name a few.

Regarding claim 15: Claim 15 recites a "index of the reaction mixture" which renders the claim indefinite because the meaning of the term or range is not clearly defined. It is noted that the instant specification does not teach or define the meaning of this "index" in any manner, though mentions many different 'indexes'. It is also noted that the prior art of record does not teach or suggest that such term is commonly used in the art. Furthermore, the term "index" in general throughout the art is known to have many various uses such as a heterogeneity index (ie. polydispersity of a mixture of molecular weights) or a refractive index of a solution to name a few.

Regarding claims 36 and 38: Claims 36 recites that the polyol and polyisocyanate are combined to produce an index of 200 to 1000 which renders the claim indefinite because the meaning of the term or range is not clearly defined. It is noted that the instant specification does not teach or define the meaning of this "index" in any manner, though mentions many different 'indexes'. It is also

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noted that the prior art of record does not teach or suggest that such term is commonly used in the art. Furthermore, the term "index" in general throughout the art is known to have many various uses such as a heterogeneity index (ie. polydispersity of a mixture of molecular weights) or a refractive index of a solution to name a few.

Claims 13, 15, 30, 32, 34, 36, and 38 appears to contain the trademark/trade name to suggest that the term "Index" is a trademark "because it capitalized wherever it appears. Although "Index" does not appear to be a trademark, by the instant specification, applicant is reminded that the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks. Furthermore, where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name is used to identify/describe "Index" and, accordingly, the identification/description is indefinite.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 13, 15, 30, 32, 34, 36, and 38 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claims 13, 30, 32, and 34: Claims 13 and 30 recite that the polyol and polyisocyanate are mixed at an index of 200 to 1000 which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the

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inventor(s), at the time the application was filed. It is noted that the instant specification does not teach or define the meaning of this "index" in any manner, though mentions many different 'indexes'. It is also noted that the prior art of record does not teach or suggest that such term is commonly used in the art. Furthermore, the term "index" in general throughout the art is known to have many various uses such as a heterogeneity index (ie. polydispersity of a mixture of molecular weights) or a refractive index of a solution to name a few.

Regarding claim 15: Claim 15 recites a "index of the reaction mixture" which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed. It is noted that the instant specification does not teach or define the meaning of this "index" in any manner, though mentions many different 'indexes'. It is also noted that the prior art of record does not teach or suggest that such term is commonly used in the art. Furthermore, the term "index" in general throughout the art is known to have many various uses such as a heterogeneity index (ie. polydispersity of a mixture of molecular weights) or a refractive index of a solution to name a few.

Regarding claims 36 and 38: Claims 36 recites that the polyol and polyisocyanate are combined to produce an index of 200 to 1000 which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed. It is noted that the instant specification does not teach or define the meaning of this "index" in any manner, though mentions many different 'indexes'. It is also noted that the prior art of record does not teach or suggest that such term is commonly used in the art. Furthermore, the term "index" in general throughout the art is known to have many various uses such as a heterogeneity index (ie. polydispersity of a mixture of molecular weights) or a refractive index of a solution to name a few.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been

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obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishida (US Pat. 5,294,461) in view of Brink et al. (US Pat. 6,043,313).

Ishida teaches the basic claimed process of pultrusion, comprising: pulling continuous fibers through an impregnation die (Fig. 2); supplying a two component reaction mixture to an impregnation die (Fig. 2), including one that forms a polyurethane (5:50-63); contacting the fibers with the reaction mixture and minimal polymerization the mixture to enhance fiber wet-out (3:1-11, 6:46-69 and Fig. 2); directing coated fibers to a curing die and curing thereof (7:9-26 and Fig. 2); and drawing a cured/solid composite from the curing die (Fig. 2).

Ishida does not teach pultruding a reaction mixture comprising a polyol, polyisocyanate, and a mold release agent. Nonetheless, Brink et al. teaches pultruding a reaction mixture comprising a polyol, polyisocyanate, and a mold release agent (7:19-21, 10:42-50, and 11:30-35). Ishida and Brink et al. are combinable because they are concerned with a similar technical difficulty, namely two-part reaction mixtures for forming composites. At the time of invention a person having ordinary skill in the art would have found it obvious to have used a reaction mixture comprising a polyol, polyisocyanate, and a mold release agent, as taught by Brink et al., in the process of Ishida, and would have been motivated to so because Brink et al. suggests that such reaction mixtures produce composites having desirable thermal stability and mechanical strength.

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Claims 27, 28, 29, 31, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishida (US Pat. 5,294,461) in view of Brink et al. (US Pat. 6,043,313).

Regarding claims 27 and 28: Ishida teaches the basic claimed process of pultrusion, comprising: pulling continuous fibers through an impregnation die (Fig. 2); supplying a two component reaction mixture to an impregnation die (Fig. 2), including one that forms a polyurethane (5:50-63); contacting the fibers with the reaction mixture and minimal polymerization the mixture to enhance fiber wet-out (3:1-11, 6:46-69 and Fig. 2); directing coated fibers to a curing die and curing thereof (7:9-26 and Fig. 2); and drawing a cured/solid composite from the curing die (Fig. 2).

Ishida does not teach pultruding a reaction mixture comprising a polyol, polyisocyanate, and a mold release agent. Nonetheless, Brink et al. teaches pultruding a reaction mixture comprising a polyol, polyisocyanate, and a mold release agent (7:19-21, 10:42-50, and 11:30-35). Zinc stearate is a very well known mold release agent commonly used in the molding of plastics. Ishida and Brink et al. are combinable because they are concerned with a similar technical difficulty, namely two-part reaction mixtures for forming composites. At the time of invention a person having ordinary skill in the art would have found it obvious to have used a reaction mixture comprising a polyol, polyisocyanate, and a mold release agent, as taught by Brink et al., in the process of Ishida, and would have been motivated to so because Brink et al. suggests that such reaction mixtures produce composites having desirable thermal stability and mechanical strength.

Regarding claim 29: Neither Brink et al. nor Ishida mention the presence of an amine during a polyol and polyisocyanate process.

Regarding claim 31: Brink et al. further teaches polyester polyols (8:40-49).

Regarding claim 33: Brink et al. further teaches a polymer having at least one isocyanate reactive group (4:47-50).

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Barsa, Tallmadge et al., Kaiser et al., Beckman et al., DeMeuse et al., and Ryckis-Kite et al. all teach the basic state of the art.

Allowable Subject Matter

Claims 1-5, 20, 22, and 24 are allowed.

The following is an examiner's statement of reasons for allowance:

The prior art of record does not teach or suggest a pultrusion reaction mixture of a polyol and polyisocyanate which is drawn through a curing die wherein the mixture gels between 340 and 768 seconds at 25°C and between 95 and 210 seconds at 140°C. It is noted that Ishida (US Pat. 5,294,461) teaches the basic claimed process and pultrusion reaction mixtures of a polyol and polyisocyanate are substantially taught by Brink et al. (US Pat. 6,043,313).

Claims 35 and 37 are allowed.

The following is an examiner's statement of reasons for allowance:

The prior art of record does not teach or suggest a pultrusion reaction mixture of a polyol and polyisocyanate which is drawn through a curing die wherein the mixture gels between 84 to 600 seconds when maintained at 23°C and cures within 1 minute when heated between 120 to 140°C. It is noted that Ishida (US Pat. 5,294,461) teaches the basic claimed process and pultrusion reaction mixtures of a polyol and polyisocyanate are substantially taught by Brink et al. (US Pat. 6,043,313).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Eashoo, Ph.D. whose telephone number is (703) 308-3606. The examiner can normally be reached on 7am-3pm EST, Monday - Friday.

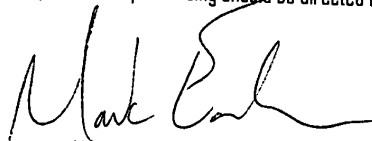
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Colaanni can be reached on (703) 305-5493. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Mark Eashoo, Ph.D.
Primary Examiner
Art Unit 1732

9/22/03

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